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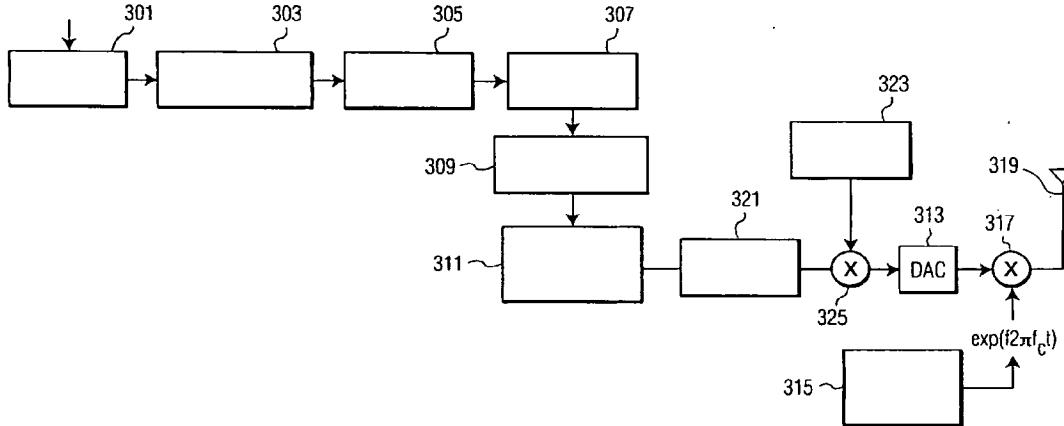
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[Continued on next page]

(54) Title: MULTI-CARRIER OFDM UWB COMMUNICATIONS SYSTEMS



WO 2005/034419 A1

(57) Abstract: Multiple subbands of a transmission band are continuously occupied by an OFDM signal that would otherwise occupy only a single subband. Steps may include producing an OFDM symbol (309); transforming the OFDM symbol to produce an OFDM signal (311); upsampling the OFDM signal to produce an upsampled OFDM signal (321); applying a pseudorandom code (323) to the upsampled OFDM signal to produce a coded OFDM signal; and upconverting (317) the coded OFDM signal to produce a radio frequency signal. Alternatively, steps may include upconverting the OFDM signal to produce a radio frequency signal; wherein the radio frequency signal occupies multiple ones of the following subbands: about 3200MHz to about 3700MHz; about 3700MHz to about 4200MHz; and about 4200MHz to about 4800MHz. In another embodiment, steps may include producing a sequence of N consecutive identical OFDM symbols.

**Declarations under Rule 4.17:**

- as to applicant's entitlement to apply for and be granted a patent (Rule 4.17(ii)) for the following designations AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, UZ, VC, VN, YU, ZA, ZM, ZW, ARIPO patent (BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW), Eurasian patent (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European patent (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PL, PT, RO, SE, SI, SK, TR). OAPI patent (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG)
- as to the applicant's entitlement to claim the priority of the earlier application (Rule 4.17(iii)) for all designations
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